

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/Ala Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-006358**Date Inspected:** 20-Mar-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1845**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 645**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Jia**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower and OBG Components**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector George Goulet was present during the times noted above for observations relative to the work being performed.

Bay 10

This QA inspector proceeded to Bay 10 in response to a ZPMC notification of witness inspection #'s 2357 and 2365 to perform MT inspection as follows:

This QA Inspector performed MT of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA inspector generated an MT report for this date. The member is identified as NSD1-SA163A/D. The weld designations reviewed are as follows: 17~22, 14A/B, 15A/B, 16A/B. QA Inspector also notated MT review on the member near the weld.

This QA Inspector performed MT of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA inspector generated an MT report for this date. The member is identified as NSD1-SA163B/D. The weld designations reviewed are as follows: 2A/B, 3A/B. QA Inspector also notated MT review on the member near the weld.

Bay 9 - PMT

This QA inspector monitored OBG Production Monitoring Test (PMT) #1 for deck panels DP238-001 and DP376-001 at Gantry #1. Prior to PMT #1, the magnetic particle test (MT) of the tack welds was noted on the test panel as having been performed by ZPMC MT Inspector Wang Wei. The visual inspection of tack welds and root

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gap was performed by ABF Representative Cao Hai Zhou (ABF), ZPMC CWI Li Jia (QC), and this QA inspector. The start time for welding of PMT #1 was approximately 0048 hours on Saturday, 3/21/09 and the finish time was approximately 0120 hours. This QA inspector randomly verified and documented the welding amperage, voltage and travel speed during the gas metal arc welding (GMAW) and submerged arc welding (SAW) processes, welds 1 thru 6 at the completion of both the GMAW root pass and SAW cover pass. The welds were visually inspected by ABF, QC and this QA inspector. QC and ABF informed QA Inspector that all six welds were acceptable and QA inspector concurred. This QA inspector randomly witnessed ZPMC Ultrasonic Testing (UT) inspector, identified as Xue Hai Rong, perform UT on each of the 500 mm test welds for depth of penetration and conformance. This QA inspector selected fifteen designated locations for macroetch sampling per contract requirements. Each macroetch location was stamped by ZPMC personnel with the number 238, the letter S, and an individual macroetch identifying number for each macroetch. After removal from each of the weld test specimens and polishing of the selected end, the macroetches were evaluated with a 7X optical comparator and a 10X optical comparator and accepted by QC, ABF, and this QA inspector.

All fifteen sample macros appeared to meet requirements and were noted to appear acceptable. See Caltrans U-ribs PMT Inspection Sheet, ZPMC production monitoring test plate inspection report, and Caltrans Macro Etch Log - all dated 3/21/2008 for additional information.

Bay 11

This QA inspector proceeded to Bay 11 in response to a ZPMC notification of witness inspection # 2311 to perform MT inspection as follows:

This QA Inspector performed MT of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA inspector generated an MT report for this date. The member is identified as ESD1-FASA3--2A/E. The weld designation reviewed is as follows: 2A. QA Inspector also notated MT review on the member near the weld.

This QA Inspector performed MT of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA inspector generated an MT report for this date. The member is identified as ESD1-FDSA3-2A/C. The weld designations reviewed are as follows: 3, 5A-1. QA Inspector also notated MT review on the member near the weld.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

Summary of Conversations:

As noted above, and this QA inspector asked QC noted above if all the welding variables observed by him appeared to comply with the appropriate WPS, including preheat and interpass temperature requirements according to thickness of the thickest member being welded. QC showed this QA Inspector that he was carrying the appropriate temperature sticks to monitor the minimum and maximum preheat and interpass temperatures and replied that all he observed did appear to comply.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, 134-8257-0045, who represents the Office of Structural Materials for

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your project.

Inspected By: Goulet, George

Quality Assurance Inspector

Reviewed By: Carreon, Albert

QA Reviewer